

Protecting Endangered Species Interim Measures for Use of Pesticides in Riverside County

The federal Endangered Species Act is intended to protect and promote the recovery of animals and plants that are in danger of becoming extinct due to human activities. Under the Act, the U.S. Environmental Protection Agency (U.S. EPA) must ensure that the use of pesticides it registers will not result in harm to the species listed as endangered or threatened by the U.S. Fish and Wildlife Service, or to habitat critical to those species' survival. This program will protect endangered and threatened species from harm due to pesticide use.

The information provided in this bulletin is similar to what U.S. EPA expects to distribute once the Endangered Species Protection Program is in effect. Individuals who use pesticides during this interim period are not legally required to comply with these suggested measures. At the present time, compliance with the requirements specified on the pesticide product labeling will satisfy all legal requirements regarding pesticides and endangered species protection. While these pesticide use conditions do not yet have the force of law, they are being provided now for your use in voluntarily protecting endangered and threatened species.

Your comments are needed regarding the information presented in this publication. Please contact us to let us know whether the information is clear and correct. Also tell us to what extent following the recommended measures would affect your pesticide use program. This information will be considered by U.S. EPA during the final stages of program development.

Please submit comments to:
DPR Pesticide Registration Branch
830 K Street
Sacramento, CA 95814
(916) 324-3881
rmarovich@cdpr.ca.gov
<http://www.cdpr.ca.gov/docs/es/index.htm>



About This Publication

This publication contains a map of the county including a shaded area where pesticide use should be limited to protect listed species. In the Section List, you will find additional information on the individual species that occur in each section, indexed by county, township, range and section.

The Species Descriptions table lists the taxonomic groups for each species. The Active Ingredients tables list certain pesticides and the activity category (mode of action, etc.) of the pesticide and the taxonomic groups they could adversely affect. The use limitations in this bulletin apply only to listed pesticides where the hazard class of the pesticide matches the hazard class (sensitivity of the taxonomic group) of the species that occur in the section where the pesticide will be used. Within a given section, use limitations only apply to sites that are consistent with habitat as noted in the Species Descriptions table. The Use Limitation Codes table indicates which use limitation codes apply to each species. The Use Limitations table translates limitation codes to use limitations.

Does This Information Apply To You?

To determine whether this information applies to your use of a pesticide, review the questions below. The information applies only if you answer "yes" to all three of these questions:

- Do you intend to use pesticides within the shaded area on the map (p 3) that is further detailed in the Section List (p 47)? If so, note the species from the Section List.
- Are any of the ingredients included in your pesticide product named in the Active Ingredients tables (p 11, 18, 22, 25, 28)?
- If so, does the hazard class(es) of the pesticide you intend to use match one or more of the taxonomic groups of the species as shown in the Species Descriptions table (p 35)?

If you answer "yes" to all three questions, you should follow the instructions on "How to Use This Information" (p 2) to help protect listed species.

If you answer "no" to any of the above questions, this bulletin does not apply to you.

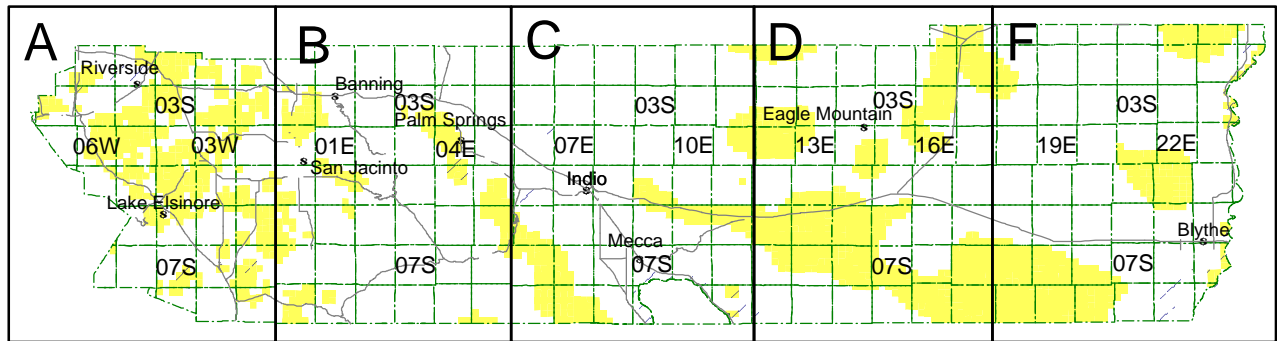


How to Use This Information

See worksheets for each class of pesticide that you intend to use:

<u>Worksheets</u>	<u>Page</u>
Herbicides	9
Insecticides	16
Fungicides	21
Rodenticides - Grain Baits	24
Rodenticides - Fumigants	27

Distribution of Species Addressed in This Bulletin



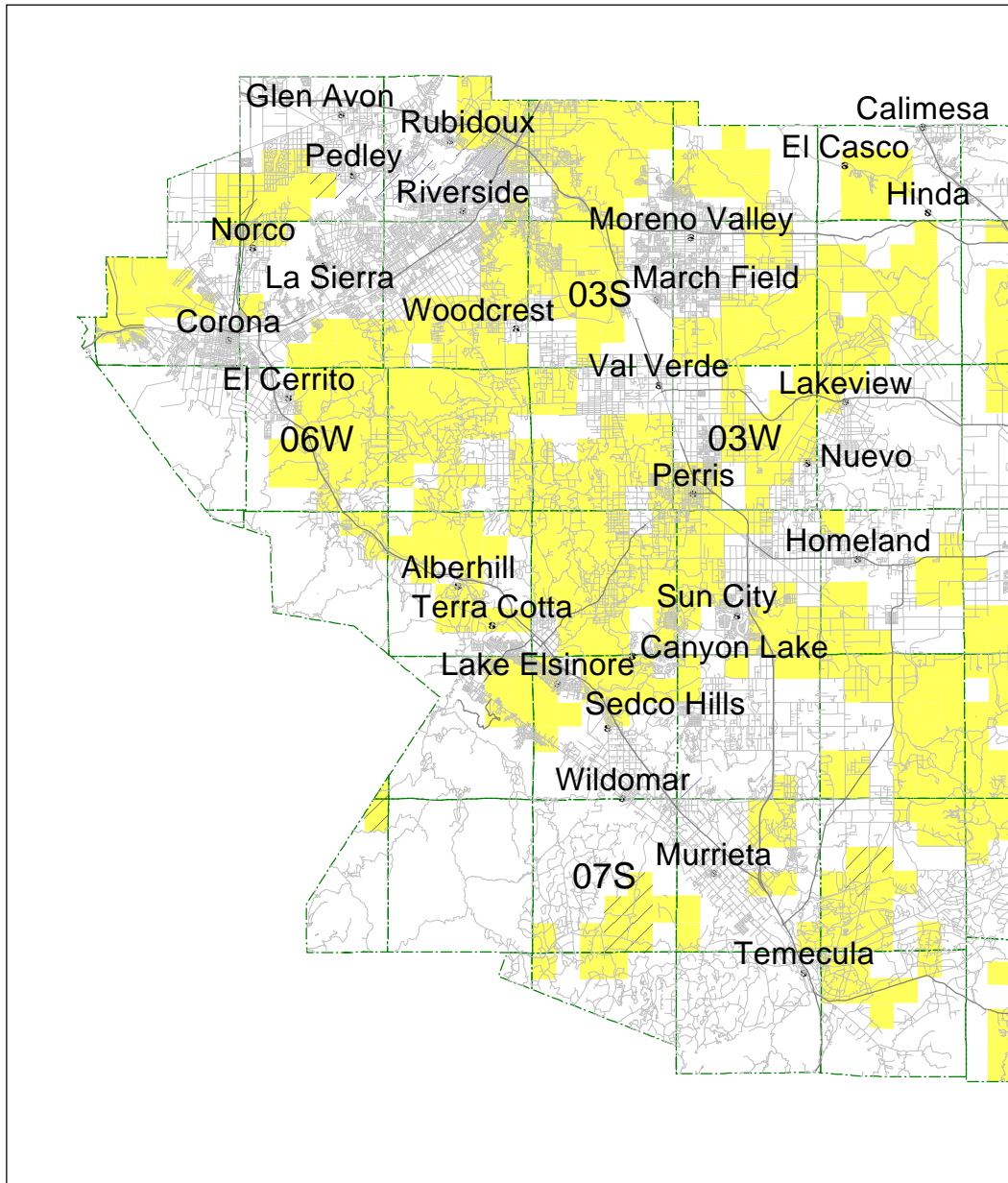
Terrestrial Species



Aquatic Species (restrictions apply only to aquatic habitats and flowing waters within species distribution- refer to the habitat descriptors in the bulletin for further information)

Overview Map

Distribution of Species Addressed in This Bulletin



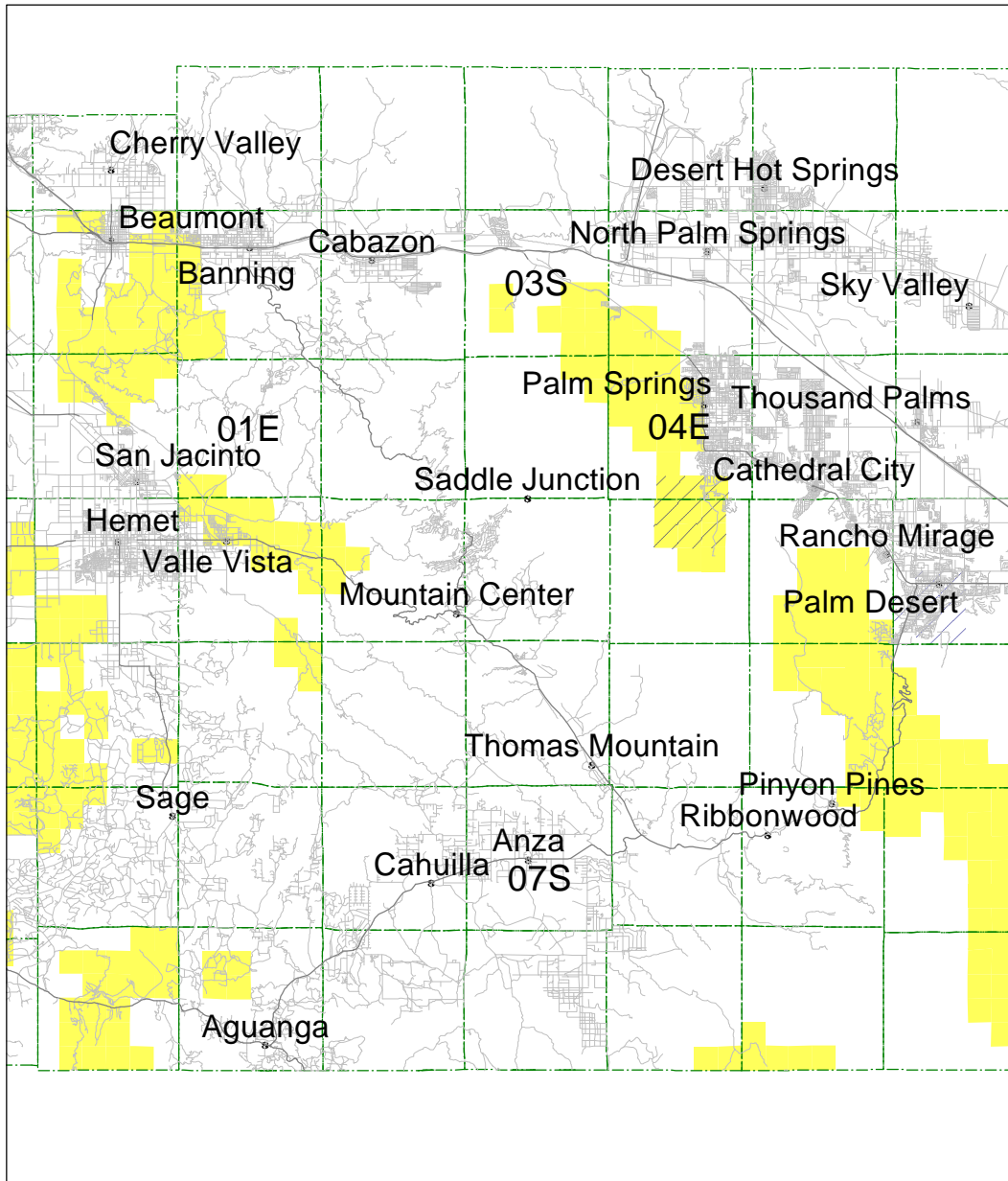
Terrestrial Species



Aquatic Species (restrictions apply only to aquatic habitats and flowing waters within species distribution- refer to the habitat descriptors in the bulletin for further information)

Detail Map A

Distribution of Species Addressed in This Bulletin



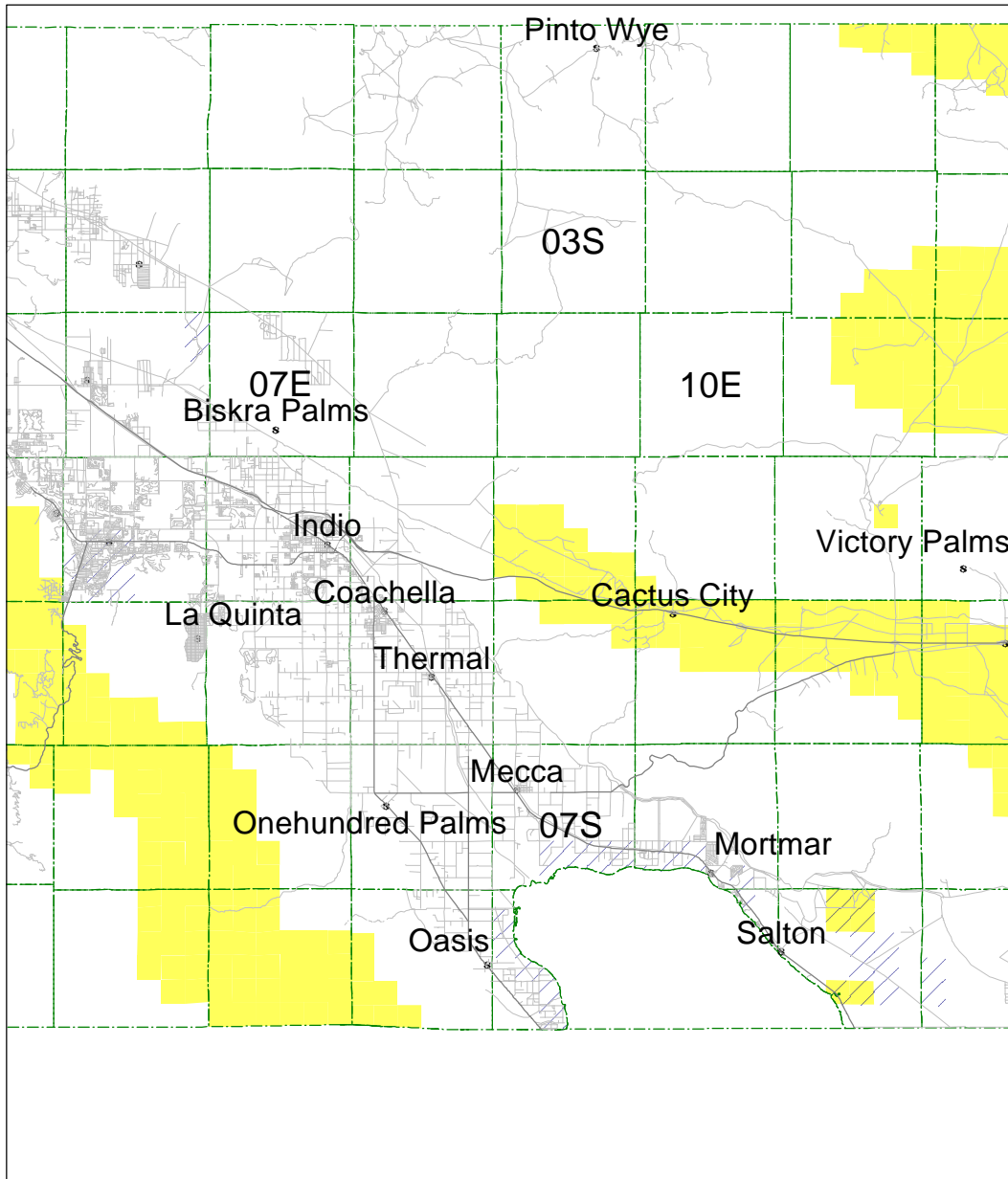
Terrestrial Species



Aquatic Species (restrictions apply only to aquatic habitats and flowing waters within species distribution- refer to the habitat descriptors in the bulletin for further information)

Detail Map B

Distribution of Species Addressed in This Bulletin



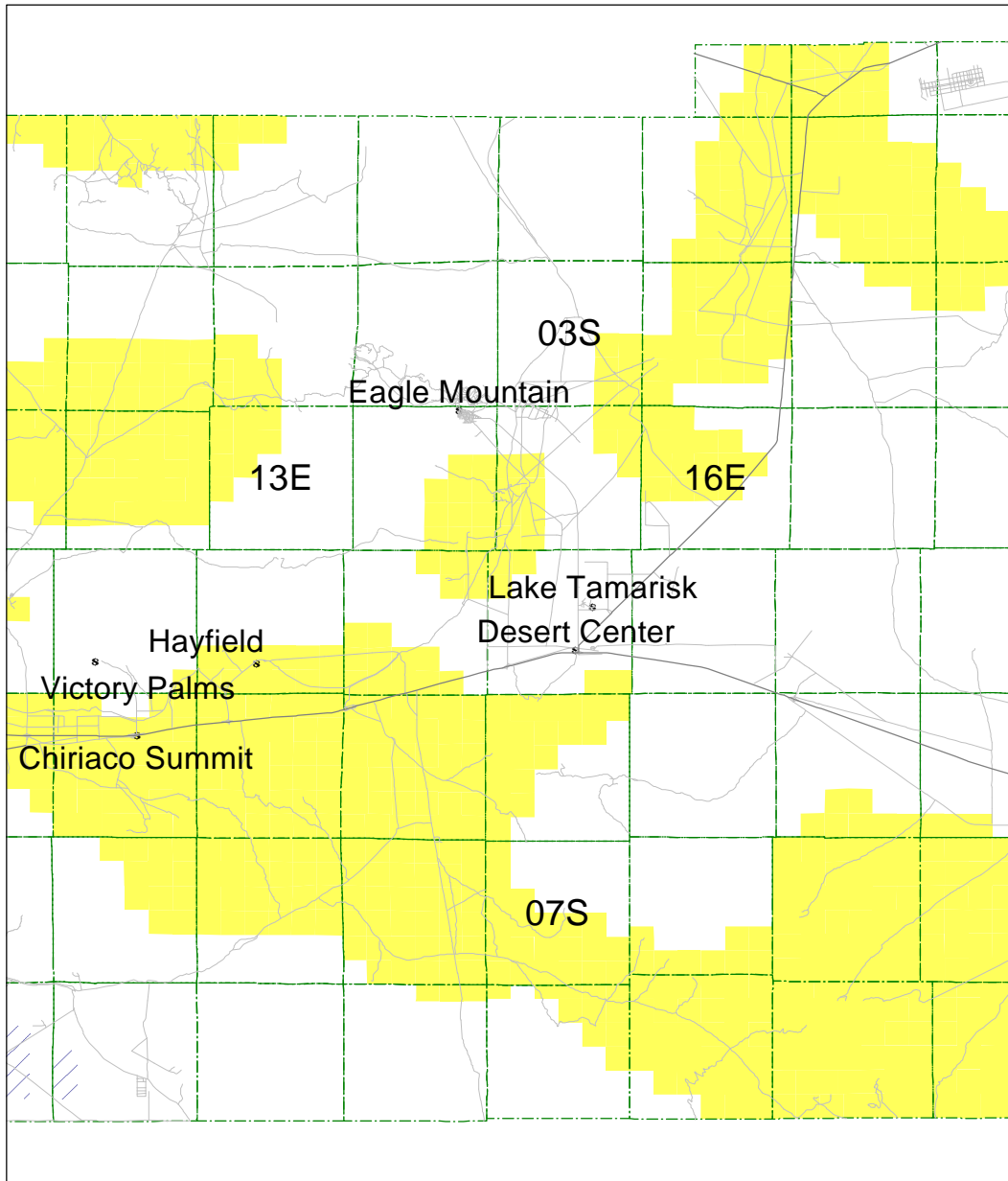
Terrestrial Species



Aquatic Species (restrictions apply only to aquatic habitats and flowing waters within species distribution- refer to the habitat descriptors in the bulletin for further information)

Detail Map C

Distribution of Species Addressed in This Bulletin



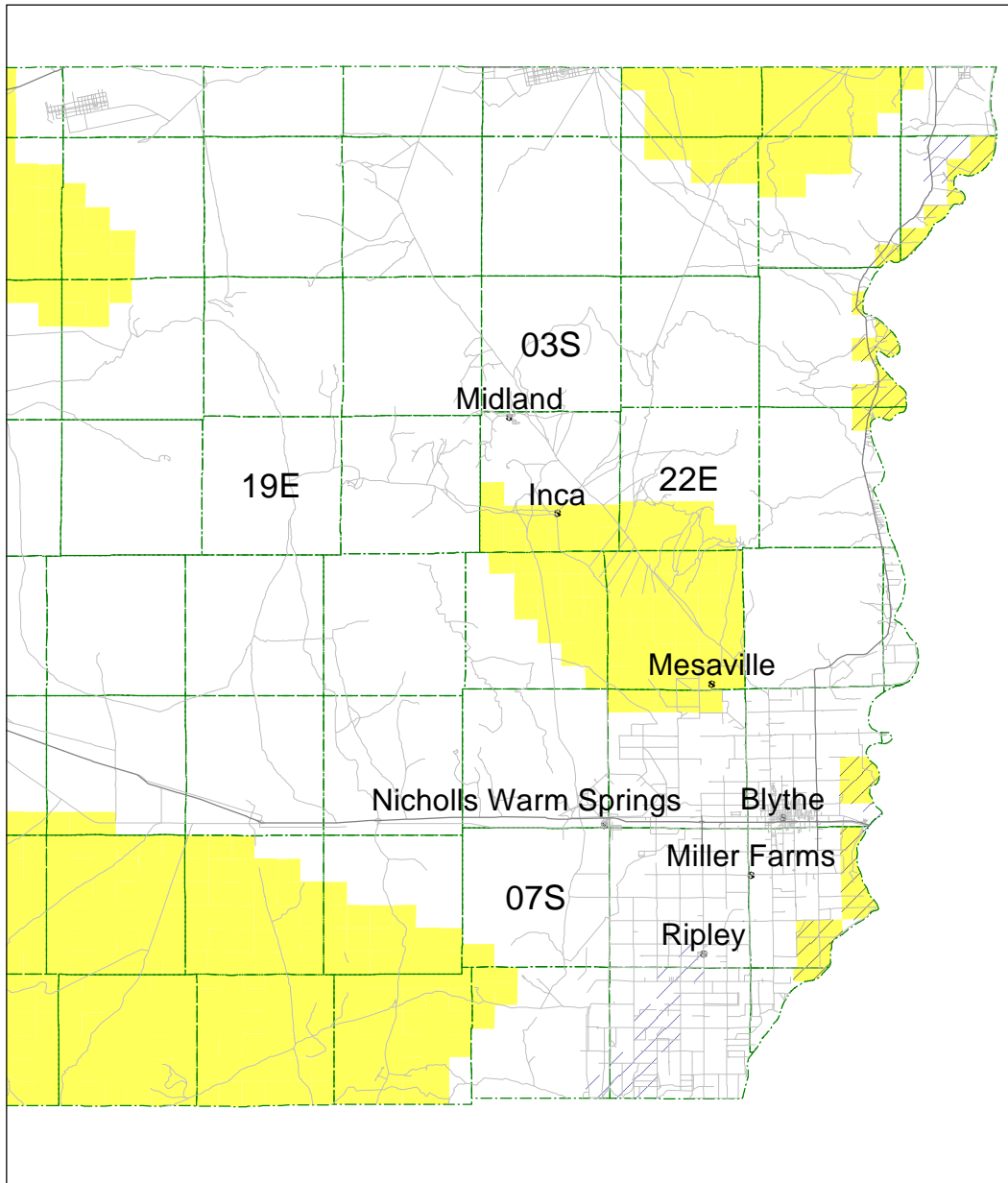
Terrestrial Species



Aquatic Species (restrictions apply only to aquatic habitats and flowing waters within species distribution- refer to the habitat descriptors in the bulletin for further information)

Detail Map D

Distribution of Species Addressed in This Bulletin



Terrestrial Species



Aquatic Species (restrictions apply only to aquatic habitats and flowing waters within species distribution- refer to the habitat descriptors in the bulletin for further information)

Detail Map E

Worksheet for Herbicides

For each section where you will apply herbicides:

1. Is the section inside of the shaded area on the county map (p 3)? Yes () No ()
(if yes, or if you are unsure go on to #2, if no, this bulletin does not apply)
2. Is the section listed in the Section List (p 41)? Yes () No ()
(if yes, go on to #3, if no, this bulletin does not apply)
3. Is the active ingredient of the herbicide(s) you intend to use listed in the Active Ingredients table (p 8-11)?
(if yes, go on to #4, if no, this bulletin does not apply) Yes () No ()
4. For each active ingredient, note the hazard class and activity category (from the Active Ingredients table).

herbicide active ingredient(s) (list each)	Hazard Class (check all that apply)			Activity Category (check one)				
	AQ	PD	PM	a	b	c	d	e
_____	()	()	()	()	()	()	()	()
_____	()	()	()	()	()	()	()	()
_____	()	()	()	()	()	()	()	()
_____	()	()	()	()	()	()	()	()
_____	()	()	()	()	()	()	()	()

5. For each species in the section to be treated, look up the hazard class (taxonomic group) in the Species Descriptions table (p 32) and check all that apply.

AQ	PD	PM
()	()	()

6. Does one or more hazard class(es) of the herbicide(s) from #4 match the hazard class (taxonomic group) for any of the species from #5? (if yes to any, go on to #7, if no, this bulletin does not apply) Yes () No ()
7. Look up the use limitation codes by hazard class and activity category in the Use Limitation Codes table in this section for each pesticide that you intend to use and check all use limitation codes that apply.

Limitation Codes

11 ()	15 ()	16 ()	17 ()	19 ()
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8. Follow the use limitations corresponding to each code as shown in the Use Limitations table (p 27). If more than one code applies and there is a conflict, follow the most restrictive limitation. Note that use limits apply only to sites that match or (where buffer zones apply) are adjacent to sites that match the habitat descriptions in the Species Descriptions table (p 32) for each species.

Active Ingredients Tables

Active ingredients of pesticides covered by this bulletin are listed in separate tables on the following pages by classification as herbicides, insecticides, fungicides or rodenticides. The active ingredients table for each pesticide class specifies the activity category of each active ingredient and one or more hazard classes that are subsequently used to determine appropriate pesticide use limitations.

Herbicide Exposure Categories

Herbicides are grouped by activity categories (a-e) that broadly define mode of action and use patterns that in turn determine potential routes of exposure to listed species. The activity category of an herbicide is the exposure component that is used with the hazard class of the pesticide and the taxonomic group of the species to define which pesticide use limitations (if any) to apply.

Activity Category	Description
a	Broad spectrum foliar active herbicides with systemic or contact activity and without pre-emergent or residual soil activity.
b	Herbicides with foliar activity on broadleaved plants (dicots) only.
c	Herbicides with foliar activity on grasses (monocots) only.
d	Broad spectrum herbicides with residual soil activity.
e	Broad spectrum, seedling stage, pre-emergent herbicides.

Active Ingredients (Herbicides)

Herbicides

Active Ingredients	Activity Category	Hazard Class		
		Aquatic Animals (AQ)	Plants	
			Dicot (PD)	Monocot* (PM)
2,4-D	b		X	
2,4-D, butoxyethanol ester	b	X	X	
2,4-D, dimethylamine salt	b		X	
2-(2,4-DP), dimethylamine salt	b		X	
4(2,4-DB), dimethylamine salt	b		X	
alachlor	d		X	X
atrazine	d		X	X
benefin	e	X	X	X
bensulfuron methyl	d		X	X
bensulide	d		X	X
bentazon, sodium salt	a		X	X
bromacil	d		X	X
bromoxynil	a	X	X	X
butylate	d		X	X
cacodylic acid	a		X	X
carfentrazone-ethyl	a		X	X
chlorsulfuron	d		X	
chlorthal-dimethyl	e		X	X
clethodim	c			X
clopyralid	b		X	
copper	a	X		
copper ethanolamine complex	a	X		

* and gymnosperms

Active Ingredients (Herbicides)

Active Ingredients	Activity Category	Hazard Class		
		Aquatic Animals	Plants	
			Dicot	Monocot*
copper sulfate (basic)	a	X		
copper sulfate pentahydrate	a	X		
cyanazine	d		X	X
cycloate	d		X	X
desmedipham	e		X	X
dicamba, dimethylamine salt	b		X	
dichlobenil	d		X	X
diclofop-methyl	c	X		X
difenzoquat methyl sulfate	a			X
diquat dibromide	a		X	X
dithiopyr	d	X	X	X
diuron	d		X	X
endothall, dipotassium salt	d		X	X
endothall, mono [N,N-dimethyl alkylamine] salt	d		X	X
EPTC	d		X	X
ethafluralin	e	X	X	X
ethofumesate	d		X	X
fenoxaprop	c			X
fluazifop-butyl	c			X
glufosinate	a		X	X
halosulfuron	d		X	X
imazethapyr	d		X	X
isoxaben	d		X	X

* and gymnosperms

Active Ingredients (Herbicides)

Active Ingredients	Activity Category	Hazard Class		
		Aquatic Animals (AQ)	Plants	
			Dicot (PD)	Monocot* (PM)
glyphosate, isopropylamine salt	a		X	X
glyphosate, monoammonium salt	a		X	X
hexazinone	d		X	X
imazapyr	d		X	X
linuron	d		X	X
MCPA, dimethylamine salt	b		X	
MCPP, dimethylamine salt	b		X	
metalochlor	d		X	X
metam-sodium	d	X	X	X
metribuzin	d		X	X
molinate	d		X	X
MSMA	a		X	X
napropamide	d		X	X
nicosulfuron	a		X	X
nonanoic acid	a		X	X
norflurazon	d		X	X
oryzalin	e		X	X
oxadiazon	e	X	X	X
oxyfluorfen	e	X	X	X
paraquat dichloride	a		X	X
pebulate	e		X	X

* and gymnosperms

Active Ingredients (Herbicides)

Herbicides

Active Ingredients	Activity Category	Hazard Class		
		Aquatic Animals (AQ)	Plants	
			Dicot (PD)	Monocot* (PM)
pendimethalin	e	X	X	X
petroleum hydrocarbons	a		X	X
petroleum oil, unclassified	a		X	X
phenmedipham	b		X	
prometon	d		X	X
prometryn	d		X	
pronamide	d		X	X
propanil	a		X	X
pyrazon	d		X	X
pyrithiobac	b		X	
rimsulfuron	d		X	X
sethoxydim	c			X
simazine	d		X	X
sulfometuron, methyl	d		X	X
tebuthiuron	d		X	X
thiazopyr	d		X	X
thiobencarb	a		X	X
triclopyr, butoxyethyl ester	b	X	X	
triclopyr, triethylamine salt	b		X	
trifluralin	e	X	X	X

* and gymnosperms

Limitation Codes (Herbicides)

The following table identifies use limitation codes for each combination of hazard class (AQ, PM or PD) and herbicide activity category (a-e). Use the hazard class row(s) that corresponds with both (1) the pesticide (from the Active Ingredients table) and (2) the hazard class (taxonomic group) of the species in the section to be treated (as found in the Species Descriptions table) and the activity category column(s) that corresponds with the herbicide(s) you intend to use. If either (1) the hazard class (taxonomic group) of one or more species does not match at least one of the hazard class(es) of the herbicide you intend to use or (2) if the combination of activity category and hazard class results in a double dash (- -), then no use limitations apply. Note all applicable codes (11-19). These codes are translated in the Use Limitations table (p 29)

Hazard Class	Herbicide Activity Category				
	a	b	c	d	e
AQ	11, 17	11, 17	11, 17	11, 15, 16, 17	11, 17
PM	11, 17	- -	11, 17	11, 16, 17, 19	11
PD	11, 17	11, 17	- -	11, 16, 17, 19	11

Worksheet for Insecticides

For each section where you will apply insecticides:

1. Is the section inside of the shaded area on the county map (p 3)? Yes () No ()
(if yes, or if you are unsure go on to #2, if no, this bulletin does not apply)
2. Is the section listed in the Section List (p 47)? Yes () No ()
(if yes, go on to #3, if no, this bulletin does not apply)
3. Is the active ingredient of the insecticide(s) you intend to use listed in the Active Ingredients table (p 17-18)? Yes () No ()
(if yes, go on to #4, if no, this bulletin does not apply)
4. For each active ingredient, note the hazard class and activity category (from the Active Ingredients table).

insecticide active ingredient(s) (list each)	Hazard Class (check all that apply)				Activity Category
	AQ	AV	IN	PD	
_____	()	()	()	()	i (x)
_____	()	()	()	()	(x)
_____	()	()	()	()	(x)
_____	()	()	()	()	(x)
_____	()	()	()	()	(x)

5. For each species in the section to be treated, look up the hazard class (taxonomic group) in the Species Descriptions table (p 34) and check all that apply.

AQ	AV	IN	PD
()	()	()	()

6. Does one or more toxicity class of the insecticide(s) from #4 match the hazard class (taxonomic group) for any of the species from #5? (if yes to any, go on to #7, if no, this bulletin does not apply) Yes () No ()
7. Look up the use limitation codes by hazard class and activity category in the Use Limitation Codes table in this section for each insecticide that you intend to use and check all use limitation codes that apply.

Limitation Codes

10 ()	15 ()	16 ()	17 ()
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8. Follow the use limitations corresponding to each code as shown in the Use Limitations table (p 29).
If more than one code applies and there is a conflict, follow the most restrictive limitation. Note that use limits apply only to sites that that match or (where buffer zones apply) are adjacent to sites that match the habitat descriptions in the Species Descriptions table (p 34) for each species.

Activity Categories of Insecticides

There is currently only one activity category for insecticides.

Activity Category	Description
i	Insecticides applied by any method

Active Ingredients (Insecticides)

Active Ingredients	Activity Category	Hazard Class			
		Aquatic (AQ)	Avian (AV)	Insects (IN)	Plants-Dicot* (PD)
acephate	i			X	X
aldicarb	i	X	X		
amitraz	i	X		X	
avermectin	i	X		X	X
azinphos-methyl	i	X	X	X	X
Bacillus thuringiensis	i			X**	
bendiocarb	i	X	X	X	X
bifenthrin	i	X		X	X
buprofezin	i	X		X	X
carbaryl	i	X		X	X***
carbofuran	i	X	X	X	X
carbophenothion	i	X	X	X	X
chlorfenapyr	i	X		X	X
chlorpyrifos	i	X	X	X	X
cyfluthrin	i	X		X	X
cypermethrin	i	X		X	X
cyromazine `	i			X	X
diazinon	i	X	X	X	X
dicofol	i	X	X	X	X
dicrotophos	i	X	X	X	X
diflubenzuron	i	X	X	X	
disulfoton	i	X	X	X	X
endosulfan	i	X	X	X	X
esfenvalerate	i	X		X	X
ethion	i	X		X	
ethoprop	i	X	X	X	X
fenitrothion	i	X	X	X	X

Insecticides

* Non-granular formulations, only when in bloom, to avoid possible adverse impacts on pollination.

** Different strains of Bacillus thuringiensis are selective for different insects. Most strains target

Lepidopterous pests only. See your county agricultural commissioner for details.

*** Except XLR formulation.

Active Ingredients (Insecticides)

Active Ingredients	Activity Category	Hazard Class			
		Aquatic (AQ)	Avian (AV)	Insects (IN)	Plants-Dicot* (PD)
fenpropathrin	i	X		X	X
fenthion (livestock use)	i	X	X		
fenvalerate	i	X		X	X
fluvalinate	i	X		X	X
fonofos	i	X	X	X	X
imidacloprid	i			X	X
malathion	i	X		X	X
methamidophos	i		X	X	X
methidathion	i	X	X	X	X
methiocarb	i		X		X
methomyl	i	X	X	X	X
methyl parathion	i	X	X	X	X
mevinphos	i	X	X		X
naled	i	X		X	X
oxamyl	i	X	X	X	X
oxydemeton-methyl	i	X	X	X	X
parathion	i	X	X	X	X
permethrin	i	X		X	X
phorate	i	X	X	X	X
phosmet	i	X		X	X
profenphos	i	X		X	X
propargite	i	X		X	
pyrethrin	i	X		X	X
pyriproxyfen	i	X		X	
spinosad	i			X	X
tebufenozide	i	X		X	X
temephos	i	X	X	X	X
terbufos	i	X	X	X	X
thiodicarb (1)	i	X		X	X
tralomethrin (1)	i	X		X	X
trichlorfon (2)	i	X		X	

Insecticides

Use Limitation Codes for Insecticides

The following table identifies use limitation codes for each combination of toxicity class (AQ, AV or IN) and activity category (i). Use the hazard class row that corresponds with the taxonomic group(s) of species in the section to be treated. Note all applicable codes (11-17). The double dash (- -) indicates that no use limitations apply. These codes are translated in the Use Limitations table (p 30).

Hazard Class	Insecticide Activity Category
	i
AQ	10, 15, 16, 17
AV	10, 17
IN	10, 17
PD	10

Worksheet for Fungicides

For each section where you will apply fungicides:

1. Is the section inside of the shaded area on the county map (p 3)?
(if yes, or if you are unsure go on to #2, if no, this bulletin does not apply)

Yes () No ()
2. Is the section listed in the Section List (p 47)?
(if yes, go on to #3, if no, this bulletin does not apply)

Yes () No ()
3. Is the active ingredient of the fungicide(s) you intend to use listed in the Active Ingredients table (p 22)?
(if yes, go on to #4, if no, this bulletin does not apply)

Yes () No ()
4. For each active ingredient, note the hazard class and activity category (from the Active Ingredients table).

fungicide active ingredient(s) (list each)	Hazard Class	Activity Category
	AQ	f
	(x)	(x)
	(x)	(x)
	(x)	(x)
	(x)	(x)
	(x)	(x)

5. For each species in the section to be treated, look up the hazard class (taxonomic group) in the Species Descriptions table (p 35) and check all that apply.

AQ
(x)

6. Does one or more hazard class of the fungicide(s) from #4 match the hazard class (taxonomic group) for any of the species from #5? (if yes to any, go on to #7, if no, this bulletin does not apply)

Yes () No ()
7. Look up the use limitation codes by hazard class and activity category in the Use Limitation Codes table in this section for each fungicide that you intend to use and check all use limitation codes that apply.

Limitation Codes			
10 (x)	15 (x)	16 (x)	17 (x)

8. Follow the use limitations corresponding to each code as shown in the Use Limitations table (p 30). If more than one code applies and there is a conflict, follow the most restrictive limitation. Note that use limits apply only to sites that that match or (where buffer zones apply) are adjacent to sites that match the habitat descriptions in the Species Descriptions (p 35) table for each species.

Active Ingredients (Fungicides)

Active Ingredients	Activity Category	Hazard Class
		Aquatic (AQ)
Azoxystrobin	f	X
Benomyl	f	X
Captan	f	X
Carboxin	f	X
Chlorothalonil	f	X
Copper	f	X
Copper Ammonium Carbonate	f	X
Copper Ammonium Complex	f	X
Copper Hydroxide	f	X
Copper Octanoate	f	X
Copper Oxychloride	f	X
Copper Oxychloride Sulfate	f	X
Copper Salts of Fatty and Rosin Acids	f	X
Copper Sulfate (Basic)	f	X
Copper Sulfate (Pentahydrate)	f	X
Dazomet	f	X
Difenoconazole	f	X
Dimethomorph	f	X
Fenbuconazole	f	X
Fludioxonil	f	X
Mancozeb	f	X
Maneb	f	X
Manganese Sulfate	f	X
Oxythioquinox	f	X
PCNB	f	X
Piperalin	f	X
Propiconazole	f	X
Tebuconazole	f	X
Thiabendazole	f	X
Thiram	f	X
Triflumizole	f	X
Ziram	f	X
Zineb	f	X

Use Limitation Codes for Fungicides

The following table identifies use limitation codes for the hazard class (AQ) and fungicide activity category (f). Note all applicable codes (10-17). These codes are translated on page 30.

Hazard Class	Fungicide Activity Category
	f
AQ	10, 15, 16, 17

Worksheet for Grain Bait Rodenticides

For each section where you will apply grain bait rodenticides:

1. Is the section inside of the shaded area on the county map (p 3)?
(if yes, or if you are unsure go on to #2, if no, this bulletin does not apply) Yes () No ()
2. Is the section listed in the Section List (p 47)?
(if yes, go on to #3, if no, this bulletin does not apply) Yes () No ()
3. Is the active ingredient of the pesticide(s) you intend to use listed in the Active Ingredients table (p 25)?
(if yes, go on to #4, if no, this bulletin does not apply) Yes () No ()
4. For each active ingredient, note the hazard class and activity category (from the Active Ingredients table).

Rodenticide active ingredient(s) (list each)	Hazard Class							Activity Category		
	BB	CB	GB	HM	KF	KR	LH	g	h	k
_____	()	()	()	()	()	()	()	()	()	()
_____	()	()	()	()	()	()	()	()	()	()
_____	()	()	()	()	()	()	()	()	()	()
_____	()	()	()	()	()	()	()	()	()	()
_____	()	()	()	()	()	()	()	()	()	()

5. For each species in the section to be treated, look up the hazard class (taxonomic group) in the Species Descriptions table (p 35) and check all that apply.

BB	CB	GB	HM	KF	KR	LH
()	()	()	()	()	()	()

6. Does one or more hazard class of the pesticide(s) from #4 match the hazard class (taxonomic group) for any of the species from #5? (if yes to any, go on to #7, if no, this bulletin does not apply) Yes () No ()
7. Look up the use limitation codes by hazard class and activity category in the Use Limitation Codes table in this section for each pesticide that you intend to use and check all use limitation codes that apply.

Limitation Codes					
1A ()	1B ()	1C ()	1D ()	2 ()	3 ()
4 ()	7 ()	8 ()	33 ()	34 ()	

8. Follow the use limitations corresponding to each code as shown in the Use Limitations table (p 30). If more than one code applies and there is a conflict, follow the most restrictive limitation. Note that use limits apply only to sites that match or (where buffer zones apply) are adjacent to sites that match the habitat descriptions in the Species Descriptions table (page 35) for each species.

Active Ingredients (Rodenticides)

Active Ingredients	Activity Category	Hazard Class						
		Bait Box (BB)	Carni-vorous Birds (CB)	Grani-vorous Birds (GB)	Salt Marsh Harvest Mouse (HM)	Kit Fox (KF)	Kangaroo Rats (KR)	Very Limited Habitat (LH)
Brodifacoum	k	X	X	X	X	X	X	X
Bromadiolone	k	X	X	X	X	X	X	X
Bromethalin	k	X	X	X	X	X	X	X
Chlorophacinone	g	X	X	X	X	X	X	X
Difenacoum	k	X	X	X	X	X	X	X
Difethialone	k	X	X	X	X	X	X	X
Diphacinone	g	X	X	X	X	X	X	X
Pival	k	X	X	X	X	X	X	X
Vitamin D3	k	X	X	X	X	X	X	X
Warfarin	k	X	X	X	X	X	X	X
Zinc Phosphide	h	X	X	X	X	X	X	X

Activity Categories of Grain Bait Rodenticides

Activity Category	Description
g	Field use chronic toxicant grain bait
h	Field use acute toxicant grain bait
k	Structural use rodenticide

Use Limitation Codes for Rodenticide Grain Baits

The following table identifies use limitation codes for each combination of hazard class (BB, CB, etc.) and rodenticide activity category (g-k). Use the row(s) that corresponds with the hazard class (taxonomic group) of the species in the section to be treated and the rodenticide activity column(s) that corresponds with the rodenticide(s) you intend to use. Note all applicable codes (1-34). The double dash (- -) indicates that no use limitations apply. These codes are translated in the Use Limitations table (p 30)

Hazard Class	Rodenticide Grain Bait Activity Category		
	g	h	k
BB	7	7	7
CB	1D	- -	7
GB	1B, 1C	1B, 1C	7
HM	7 or 34	7 or 34	7
KF	1, 2, 3, 4	3	7
KR	8	8	7
LH	33	33	33

Worksheet for Fumigant Rodenticides

For each section where you will apply fumigant rodenticides:

1. Is the section inside of the shaded area on the county map (p 3)?
(if yes, or if you are unsure go on to #2, if no, this bulletin does not apply) Yes () No ()
2. Is the section listed in the Section List (p 47)?
(if yes, go on to #3, if no, this bulletin does not apply) Yes () No ()
3. Is the active ingredient of the pesticide(s) you intend to use listed in the Active Ingredients table (p 28)?
(if yes, go on to #4, if no, this bulletin does not apply) Yes () No ()
4. For each active ingredient, note the hazard class and activity category (from the Active Ingredients table).

Rodenticide active ingredient(s) (list each)	Hazard Class					Activity Category
	S1	S2	LH	WW	FS	j
_____	(x)	(x)	(x)	(x)	(x)	(x)
_____	(x)	(x)	(x)	(x)	(x)	(x)
_____	(x)	(x)	(x)	(x)	(x)	(x)
_____	(x)	(x)	(x)	(x)	(x)	(x)
_____	(x)	(x)	(x)	(x)	(x)	(x)

5. For each species in the section to be treated, look up the hazard class (taxonomic group) in the Species Descriptions table (p 35) and check all that apply.

S1	S2	LH	WW	FS
()	()	()	()	()

6. Does one or more hazard class of the pesticide(s) from #4 match the hazard class (taxonomic group) for any of the species from #5? (if yes to any, go on to #7, if no, this bulletin does not apply) Yes () No ()
7. Look up the use limitation codes by hazard class and activity category in the Use Limitation Codes table in this section for each pesticide that you intend to use and check all use limitation codes that apply.

Limitation Codes

5 ()	30 ()	31 ()	32 ()	33 ()
-------	--------	--------	--------	--------

8. Follow the use limitations corresponding to each code as shown in the Use Limitations table (p 30). If more than one code applies and there is a conflict, follow the most restrictive limitation. Note that use limits apply only to sites that match or (where buffer zones apply) are adjacent to sites that match the habitat descriptions in the Species Descriptions table (p 35) for each species.

Active Ingredients (Rodenticides - Burrow Fumigants)

Active Ingredients	Activity Category	Hazard Class				
		Seasonal Limitation 1 (S1)	Seasonal Limitation 2 (S2)	Limited Habitat (LH)	Waterways (WW)	Fossorial (Burrowing) Species (FS)
Acrolein	j	X	X	X	X	X
Aluminum phosphide	j	X	X	X	X	X
Magnesium phosphide	j	X	X	X	X	X
Sodium Nitrate	j	X	X	X	X	X
Potassium Nitrate	j	X	X	X	X	X

Activity Categories of Burrow Fumigant Rodenticides

Activity Category	Description
j	Burrow Fumigants

Use Limitation Codes for Fumigant Rodenticides

The following table identifies use limitation codes for each combination of hazard class (S1, S2, etc.) and fumigant rodenticide activity category (j). Use the hazard class row(s) that corresponds with the hazard class of the species (taxonomic group) in the section to be treated and the herbicide activity column(s) that corresponds with the fumigant(s) you intend to use. Note all applicable codes (5-32). These codes are translated in the Use Limitations table (p 30).

Hazard Class	Fumigant Rodenticide Activity Category
	j
S1	31, 5
S2	32, 5
LH	33
WW	30
FS	5

Use Limitations

1A	<p>Bait station applications: <i>Formulation:</i> The active ingredient shall not exceed 0.005% in the formulated bait.</p>
1B	<p>Bait Station Design and Use: Bait stations shall be designed with an opening that prevents access to non-target species (not to exceed 3") and controls bait spillage by feeding rodents. See your county agricultural commissioner for recommended designs and suggestions to retrofit existing stations. Bait stations shall be secured (e.g. staked) upright to prevent tipping and access by non-target animals. Bait stations shall not be filled beyond design capacity and in no case shall bait stations be filled with more than 10 lbs of bait.</p>
1C	<p>Station Monitoring: While treated baits are in use, bait stations shall be inspected for spillage, evidence of disturbance by non-target animals, excess moisture from irrigation systems, etc. Problems shall be corrected before baiting is resumed. Any spilled baits shall be promptly cleaned up (scattering limited quantities of spilled bait in non-crop areas is acceptable if allowed by labeling). Bait stations shall be replenished with treated baits as needed to provide continuous exposure. After treated baits are accepted, as evidenced by consumption of baits, depletion of bait in the bait station shall be inspected at least weekly for depletion of bait and refilled until feeding ceases. Treated baits shall be promptly removed (or bait stations shall be sealed) from all stations after feeding has ceased. If subsequent baiting is needed, a two week period without use of treated baits shall be observed before baiting is resumed. This is to keep the period when treated bait is exposed to a minimum without jeopardizing good pest control.</p>
1D	<p>Carcass Survey and Disposal: Carcass survey and disposal shall be performed in the treated area beginning on the third day following the initial exposure of toxic baits. Any exposed carcasses shall be disposed of (e.g., completely buried) in a manner inaccessible to wildlife. Carcass surveys shall continue for at least 5 days after toxic baiting has ceased and thereafter until no more carcasses are found. Carcasses should be handled with care to avoid contact with parasites such as fleas.</p>
1E	<p>Pre-baiting (optional): Pre-baiting of bait stations with non-toxic (untreated) grains such as oats, oat groats or barley is optional, but may reduce the time period for carcass surveys. Pre-baiting will acclimate the pest species to feed in bait stations and should be continued until most of the target population is feeding from the stations. The period of toxic bait exposure may be shortened as will the period when pest carcasses may be exposed. The untreated grain need not be the same as the treated grain, but milo or cracked corn should be strictly avoided due to their attractiveness to birds.</p>

Use Limitations

2A	<p>Broadcast (mechanical) and spot (hand) applications</p> <p><i>Formulation:</i> The active ingredient shall not exceed 0.01% in the formulated bait.</p>
2B	<p><i>Test Baiting/Bait Acceptance:</i> Prior to the main application of toxic baits by spot or broadcast method, a small amount of the bait shall be applied to determine bait acceptance. Test baits shall be broadcast by the same method that will be used for control baiting.</p>
2C	<p><i>Use of Treated Baits:</i> Use of treated baits shall begin only when bait acceptance is confirmed by consumption of test baits. Piling of baits shall be avoided. No additional applications shall be made whenever significant quantities of previously applied bait remain. Do not place baits directly into burrows. Do not exceed label application rates.</p> <p>Spot Baiting - Scatter a handful of bait (about 10 handfulls per pound) evenly over 40 to 50 square feet near active burrows or runways. Repeat every other day until feeding ceases.</p> <p>Mechanical Spreader - Apply at the rate of 10 pounds per swath acre through infested area. Follow with a second application in 2 to 3 days.</p>
2D	<p><i>Carcass Survey and Disposal:</i> See Limitation Code 1D.</p>
3	<p>Use of pelletized formulations for control of ground squirrels is prohibited, except in bait stations as described in Limitation Code 1 (A, B, C, E).</p>
4	<p>Jackrabbits may be controlled by using self-dispensing bait stations provided that:</p> <ul style="list-style-type: none"> Bait acceptance is first determined. Carcasses are removed and stations are monitored as described in Limitation Codes 1C and 1D respectively. Baiting ceases when feeding stops. Baits are placed only where jackrabbits are active. Use of pelletized baits is prohibited.

Use Limitations

5	<p>Use shall be supervised by a person (wildlife biologist, county agricultural commissioner, university extension advisor, state or federal official or others) who is trained to distinguish dens and burrows of target species from those of non-target species. Use shall occur only in the active burrows of target species. The person responsible for supervision shall be aware of the conditions at the site of application and be available to direct and control the manner in which applications are made (per Section 6406 of Title 3, California Code of Regulations). Contact your county agricultural commissioner for information on training.</p>
7	<p>For commensal rodent control, outdoor use must be in tamper resistant bait boxes placed in areas inaccessible to wildlife.</p>
8	<p>Use is prohibited EXCEPT under any ONE of the following conditions (in all cases where toxic baits are applied, any spilled baits shall be immediately removed or buried to prevent exposure to non-target species): For commensal rodent control, outdoor use must be in tamper resistant bait boxes placed in areas inaccessible to wildlife.</p> <p>An approved bait station (see your county agricultural commissioner for approved designs) is used that is fitted with an entrance that provides selective access to pest species but does not allow access to kangaroo rats, OR</p> <p>Bait is placed only in bait stations that are elevated to preclude exposure to kangaroo rats, and designed to prevent spillage by rodents feeding (see your county agricultural commissioner for specifications), OR</p> <p>Baits are placed in bait stations during daylight hours only and are removed (or entrances are closed) by dusk each day, OR</p> <p>Broadcast application of baits is allowed in fields under active cultivation with the maintenance of a 10 yard wide border of untreated crops where fields are adjacent to areas of natural vegetation. For purposes of this provision, fields under active cultivation means fields that have been tilled within the last one year or that such fields are irrigated by furrow, flood or overlapping sprinkler method.</p>
10	<p>Do not use in currently occupied habitat (see Species Descriptions table for possible exceptions).</p>

Use Limitations

Code	Limitation
11	Do not use in currently occupied habitat except: (1) as specified in Habitat Descriptors, (2) in organized habitat recovery programs, or (3) for selective control of invasive exotic plants.
15	Provide a 20 foot minimum strip of vegetation (on which pesticides should not be applied) along rivers, creeks, streams, wetlands, vernal pools and stock ponds or on the downhill side of fields where run-off could occur. Prepare land around fields to contain run-off by proper leveling, etc. Contain as much water "on-site" as possible. The planting of legumes, or other cover crops for several rows adjacent to off-target water sites is recommended. Mix pesticides in areas not prone to run-off such as concrete mixing/loading pads, disked soil in flat terrain or graveled mix pads, or use a suitable method to contain spills and/or rinsate. Properly empty and triple-rinse pesticide containers at time of use.
16	Conduct irrigations efficiently to prevent excessive loss of irrigation waters through run-off. Schedule irrigations and pesticide applications to maximize the interval of time between the pesticide application and the first subsequent irrigation. Allow at least 24 hours between application of pesticides listed in this bulletin and any irrigation that results in surface run-off into natural waters. Time applications to allow sprays to dry prior to rain or sprinkler irrigations. Do not make aerial applications while irrigation water is on the field unless surface run-off is contained for 72 hours following the application.
17	For sprayable or dust formulations: when the air is calm or moving away from habitat, commence applications on the side nearest the habitat and proceed away from the habitat. When air currents are moving toward habitat, do not make applications within 200 yards by air or 40 yards by ground upwind from occupied habitat. The county agricultural commissioner may reduce or waive buffer zones following a site inspection, if there is an adequate hedgerow, windbreak, riparian corridor or other physical barrier that substantially reduces the probability of drift.
19	Do not apply within 30 yards upslope of habitat unless a suitable method is used to contain or divert runoff waters.

Use Limitations

30	Use is prohibited within 500 feet of water courses at any time, EXCEPT a) in cultivated areas
31	Use is prohibited from October 1 through April 30, EXCEPT: a) in cultivated areas, or b) on the water side of water supply channels
32	Use is prohibited from July 1 through February 28, EXCEPT: a) in cultivated areas, or b) on the water side of water supply channels.
33	Use is prohibited EXCEPT with a prior site evaluation by the county agricultural commissioner in cooperation with the California Department of Fish and Game and the U.S. Fish and Wildlife Service.
34	For commensal rodent control, outdoor use near salt marshes is limited to sites that are separated by at least 10 yards of barren (or clean cultivated) ground from pickleweed habitat or from the inland side of the levee. This buffer strip should be above the high tide line.

Species Descriptions

ARROYO TOAD



Photo: Bill Palmer

Scientific Name: *BUFO MICROSCAPHUS CALIFORNICUS*

Federal Status: Endangered

Species Description:

A small (2 to 3 inches), light greenish gray or tan toad with warty skin and dark spots. A light-colored stripe crosses the head and eyelids, and a light area usually occurs on each sacral hump and in the middle of the back.

Habitat Description:

RIVERS WITH SANDY BANKS, WILLOWS, COTTONWOODS, AND SYCAMORES; LOOSE, GRAVELLY AREAS OF STREAMS IN DRIER PARTS OF RANGE. SEMI-ARID REGIONS NEAR WASHES OR INTERMITTENT STREAMS, INCLUDING VALLEY-FOOTHILL AND DESERT RIPARIAN, DESERT WASH, ETC.

Hazard Class:

AQ, FS

CALIFORNIA ORCUTT GRASS

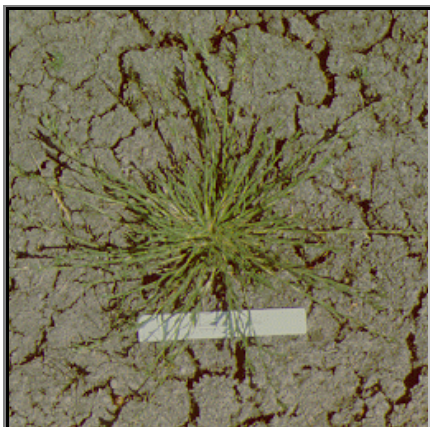


Photo: F. Thomas Griggs

Scientific Name: *ORCUTTIA CALIFORNICA*

Federal Status: Endangered

Species Description:

An annual, prostrate, inconspicuous and very rare grass, to 6 inches high. Occurs in the wettest portions of vernal pools but most growth occurs as pools are drying up.

Habitat Description:

15-660M. VERNAL POOLS. KNOWN ONLY FROM SOUTHERN CALIFORNIA AND BAJA.

Hazard Class:

PD

Species Descriptions

CALIFORNIA RED-LEGGED FROG



Photo: John Brode, CDFG

Scientific Name: *RANA AURORA DRAYTONII*

Federal Status: Threatened

Species Description:

Up to 5 in. long, undersides of adults largely red; backs have black flecks and blotches, on a brown, gray, olive, or reddish background color; tadpoles range from 0.6 to 3.1 long, are dark brown and yellow with darker spots.

Habitat Description:

REQUIRES 11-20 WEEKS OF PERMANENT WATER FOR LARVAL DEVELOPMENT. MUST HAVE ACCESS TO ESTIVATION HABITAT. LOWLANDS & FOOTHILLS IN OR NEAR PERMANENT SOURCES OF DEEP WATER WITH DENSE, SHRUBBY OR EMERGENT RIPARIAN VEGETATION.

Hazard Class:

AQ, FS

DESERT PUPFISH



Photo: B. "Moose" Peterson/WRP

Scientific Name: *CYPRINODON MACULARIUS*

Federal Status: Endangered

Species Description:

A 3 inch silvery fish that matures within 2 to 3 months and lives for 6 to 9 months. Tolerates water temperatures up to 104 F and salinity up to three times seawater. During cold winter months, they become dormant and burrow into a muddy substrate.

Habitat Description:

CAN LIVE IN SALINITIES FROM FRESH WATER TO 68 PPT, CAN WITHSTAND TEMPS FROM 9 - 45 C & D.O. LEVELS DOWN TO 0.1 PPM. DESERT PONDS, SPRINGS, MARSHES AND STREAMS IN SOUTHERN CALIFORNIA.

Hazard Class:

AQ

Species Descriptions

DESERT TORTOISE



Photo: Karen Wyatt

Scientific Name: *XEROBATES AGASSIZII*

Federal Status: Threatened

Species Description:

Adults range from 9.25 to 14.5 in. long, live 30 to 70 years, mostly in burrows, emerging to feed and mate in the late winter or early spring. Nesting occurs from May through July. Hatching usually occurs in September or October.

Habitat Description:

REQUIRE FRIABLE SOIL FOR BURROW AND NEST CONSTRUCTION. CREOSOTE BUSH HABITAT WITH LG ANNUAL WILDFLOWER BLOOMS PREFERRED. MOST COMMON IN DESERT SCRUB, DESERT WASH, AND JOSHUA TREE HABITATS; OCCURS IN ALMOST EVERY DESERT HABITAT.

Hazard Class:

FS

LEAST BELL'S VIREO



Photo: B. "Moose" Peterson

Scientific Name: *VIREO BELLII PUSILLUS (NESTING)*

Federal Status: Endangered

Species Description:

A small migratory insectivorous bird, gray above, white-gray beneath, faint white eyebrow and wingbars, white border beneath eye (lower half of eye ring), dark eyeline and eye, thick bill with hooked upper mandible.

Habitat Description:

NESTS PLACED ALONG MARGINS OF BUSHES OR ON TWIGS PROJECTING INTO PATHWAYS, USUALLY WILLOW, BACCHARIS, MESQUITE. SUMMER RESIDENT OF SOUTHERN CALIF. INHABITS LOW RIPARIAN GROWTH IN VIC OF WATER OR IN DRY RIVER BOTTOMS; BELOW 2000 FT.

Hazard Class:

AV

Species Descriptions

MARSH SANDWORT



Photo: Malcolm McLeod

Scientific Name: *ARENARIA PALUDICOLA*

Federal Status: Endangered

Species Description:

A perennial plant rooting at the lower joints, leaves more or less linear, 1.5 inches long by 0.1 inches wide and opposite in arrangement along the stem. The stem is hairless and flaccid, 1-2 mm thick.

Habitat Description:

GROWING UP THROUGH DENSE MATS OF TYPHA, JUNCUS, SCIRPUS, ETC. IN FRESHWATER MARSH. 10-170M. MARSHES AND SWAMPS. HIST. FROM SCATTERED COLL. IN CA AND IN WA; NOW KNOWN FROM ONE SITE IN SLO & APPAR. ALSO IN MEXICO.

Hazard Class:

PD

PENINSULAR BIGHORN SHEEP



Photo: Tupper Ansel Blake

Scientific Name: *OVIS CANADENSIS CREMNOBATES*

Federal Status: Proposed Endangered

Species Description:

A large mammal up to 3 feet tall at the shoulder, males weighing up to 220 lbs, females to 140 lbs, both sexes with permanent horns, massive and coiled in the males, smaller and not coiled in the females, pelage white to dark brown with a white rump.

Habitat Description:

OPTIMAL HABITAT INCLUDES STEEP WALLED CANYONS AND RIDGES BISECTED BY ROCKY OR SANDY WASHES, WITH AVAILABLE WATER. OPEN DESERT SLOPES BELOW 4,000 FT ELEVATION FROM SAN GORGONIO PASS SOUTH INTO MEXICO.

Hazard Class:

BB

Species Descriptions

RAZORBACK SUCKER

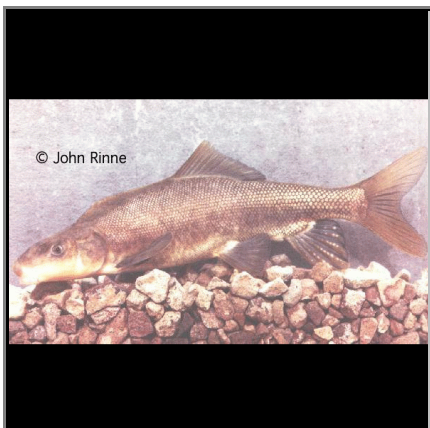


Photo: John Rinne

Scientific Name: *XYRAUCHEN TEXANUS*

Federal Status: Endangered

Species Description:

A large-river fish, one of the largest suckers in North America up to 14 pounds and 36 inches, distinguished from all other fishes by its abrupt, keel-edged, bony hump that rises on the back immediately behind the head.

Habitat Description:

ADAPTED FOR SWIMMING IN SWIFT CURRENTS BUT ALSO NEED QUIET WATERS. SPAWN IN AREAS OF SAND/GRAVEL/ROCKS IN SHALLOW WATER FOUND IN THE COLORADO RIVER BORDERING CALIFORNIA.

Hazard Class:

AQ

RIVERSIDE FAIRY SHRIMP



Photo: Guy Bruyey

Scientific Name: *STREPTOCEPHALUS WOOTTONI*

Federal Status: Endangered

Species Description:

1/2 to 1-1/2 inch crustaceans swimming upside down (ventral side up), adults have stalked compound eyes, two sets of antennae, and 11 pairs of leaf-like swimming legs. Coloration varies widely from orange to red, blue, gray or green due to food source.

Habitat Description:

INHABIT SEASONALLY ASTATIC POOLS FILLED BY WINTER/SPRING RAINS. HATCH IN WARM WATER LATER IN THE SEASON. ENDEMIC TO W RIVERSIDE & SAN DIEGO COS IN AREAS OF TECTONIC SWALES/EARTH SLUMP BASINS IN GRASSLAND & COASTAL SAGE SCRUB.

Hazard Class:

AQ

Species Descriptions

SAN BERNARDINO MERRIAM'S KANGAROO RAT



Photo: Karen Kirtland, Kirtland Biol

Scientific Name: *DIPODOMYS MERRIAMI MERRIAM*

Federal Status: Endangered

Species Description:

Small size (to 9 inches total), dark fur and four toes on each hind foot distinguish SBKR from other kangaroo rats. Fur is light yellow and dusky brown with dark brown tail stripes, foot pads and tail hairs.

Habitat Description:

ALLUVIAL FANS AND FLOOD PLAINS DOMINATED BY SAGE SCRUB AND CHAPARRAL WITH SANDY SOILS AND LOW VEGETATIVE COVER.

Hazard Class:

KR

SAN DIEGO BUTTON-CELERY

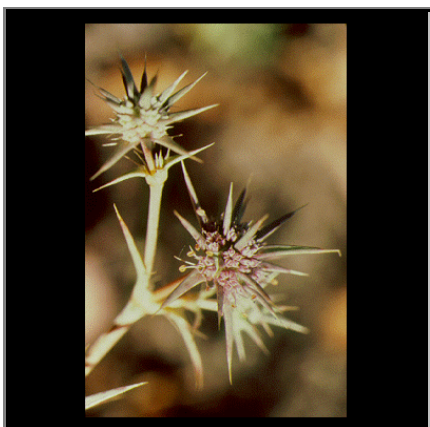


Photo: T. Oberbauer

Scientific Name: *ERYNGIUM ARISTULATUM VAR PARISHII*

Federal Status: Endangered

Species Description:

Basal rosette, white to purplish flowers, to 36 inches.

Habitat Description:

SAN DIEGO MESA HARDPAN & CLAYPAN VERNAL POOLS & SOUTHERN INTERIOR BASALT FLOW VERNAL POOLS; USU SURR BY SCRUB. 15-620M. VERNAL POOLS, COASTAL SCRUB, VALLEY AND FOOTHILL GRASSLAND. IN CALIFORNIA, KNOWN ONLY FROM RIVERSIDE & SAN DIEGO CO'S.

Hazard Class:

PD

Species Descriptions

SAN JACINTO VALLEY CROWNSCALE



Photo: Brousseau Collection

Atriplex sp.

Scientific Name: *ATRIPLEX CORONATA* VAR *NOTATOR*

Federal Status: Endangered

Species Description:

An erect, gray-scurfy annual, 4 to 12 inches tall, with alternate sessile grayish leaves, 0.3 to 0.8 in long, flowers are obscure and develop spherical bracts with dense tubercles distinguished in part by its erect stature.

Habitat Description:

DRY, ALKALINE FLATS IN THE SAN JACINTO RIVER VALLEY. 400-500M. PLAYAS, CHENOPOD SCRUB, VALLEY AND FOOTHILL GRASSLAND, VERNAL POOLS. ENDEMIC TO RIVERSIDE COUNTY.

Hazard Class:

PD

SANTA ANA RIVER WOOLLYSTAR



Photo: V. Jigore

Scientific Name: *ERIASTRUM DENSIFOLIUM* SSP *SANCTORUM*

Federal Status: Endangered

Species Description:

Perennial, erect or spreading, 2-6 lobed, densely woolly leaves, flowers white or blue.

Habitat Description:

IN SANDY SOILS ON RIVER FLOODPLAINS OR TERRACED FLUVIAL DEPOSITS. 150-610M. COASTAL SCRUB , CHAPARRAL. FORMERLY KNOWN FROM ORANGE AND SAN BERNARDINO CO'S; NOW KNOWN FROM ONE EXTENDED POPULATION.

Hazard Class:

PD

Species Descriptions

SANTA ANA SUCKER



Photo: Paul Barrett

Scientific Name: *CATOSTOMUS SANTAANAE*

Federal Status: Proposed Threatened

Species Description:

Less than 6.3 inches in length, silvery below, darker along the back with irregular blotches, and the membranes connecting the rays of the tail are pigmented.

Habitat Description:

HABITAT GENERALISTS, BUT PREFER SAND-RUBBLE-BOULDER BOTTOMS, COOL, CLEAR WATER, & ALGAE. ENDEMIC TO LOS ANGELES BASIN SOUTH COASTAL STREAMS.

Hazard Class:

AQ

SLENDER-HORNED SPINEFLOWER



Photo: SDSU

Scientific Name: *DODECAHEMA LEPTOCERAS*

Federal Status: Endangered

Species Description:

Annual, spreading, to 3 inches high, leaves basal, flowers white to pink.

Habitat Description:

FLOOD DEPOSITED TERRACES AND WASHES; ASSOC INCLUDE ENCELIA, DALEA, LEPIDOSPARTUM, ETC. 200-760M. CHAPARRAL, COASTAL SCRUB (ALLUVIAL FAN SAGE SCRUB). HIST. FROM LAX, RIV, AND SBD COUNTIES; EXTIRP. FROM MUCH OF RANGE.

Hazard Class:

PD

Species Descriptions

SPREADING NAVARRETIA



Photo: Mark Elvin

Scientific Name: *NAVARRETIA FOSSALIS*

Federal Status: Threatened

Species Description:

A low, mostly spreading or ascending, annual herb, 4 to 6 inches tall with soft, finely divided leaves, 0.4 to 2 inches long, and spine-tipped when dry, the flowers are white to lavender white with linear petals.

Habitat Description:

SAN DIEGO HARDPAN & SAN DIEGO CLAYPAN VERNAL POOLS; IN SWALES & V.P'S, OFTEN SURR. BY OTHER HABITAT TYPES. 30-1300M. VERNAL POOLS, CHENOPOD SCRUB, MARSHES AND SWAMPS, PLAYAS. IN CALIFORNIA, KNOWN ONLY FROM RIVERSIDE AND SAN DIEGO CO.

Hazard Class:

PD

STEPHENS' KANGAROO RAT



Photo: B. "Moose" Peterson/WRP

Scientific Name: *DIPODOMYS STEPHENSI*

Federal Status: Endangered

Species Description:

A dusky, cinnamon-buff colored mammal with large head and eyes, hip stripe, and tufted tail, head and body to 4-3/4 inches long with tail adding up to 7 inches, adults weigh about 65 grams.

Habitat Description:

PREFERS BUCKWHEAT, CHAMISE, BROME GRASS & FILAREE. WILL BURROW INTO FIRM SOIL. PRIMARILY ANNUAL & PERENNIAL GRASSLANDS, BUT ALSO OCCURS IN COASTAL SCRUB & SAGEBRUSH WITH SPARSE CANOPY COVER.

Hazard Class:

FS, KR

Species Descriptions

THREAD-LEAVED BRODIAEA

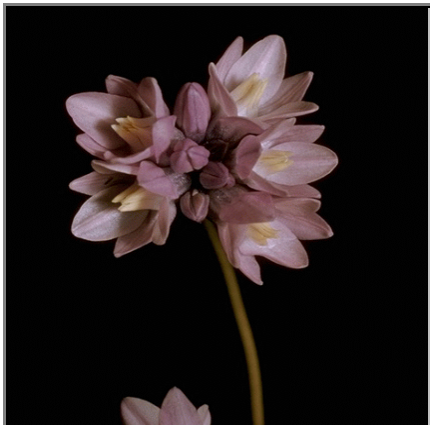


Photo: Brousseau Collection

Scientific Name: *BRODIAEA FILIFOLIA*

Federal Status: Threatened

Species Description:

A perennial in the lilly family to 8 to 16 inches tall with several narrow leaves that are shorter than the leafless flower stalk, with violet flowers from May to June.

Habitat Description:

USUALLY ASSOCIATED WITH ANNUAL GRASSLAND AND VERNAL POOLS; OFTEN SURR BY SHRUBLAND HABITATS. CLAY SOILS. 35-855M. CISMONTANE WOODLAND, COASTAL SCRUB, PLAYAS, VALLEY AND FOOTHILL GRASSLAND, VERNAL POOLS.

Hazard Class:

PM

VAIL LAKE CEANOTHUS



Photo: Gerald Corsi

Ceanothus sp.

Scientific Name: *CEANOTHUS OPHIOCHILUS*

Federal Status: Threatened

Species Description:

A rounded shrub to 5 feet in height with leaves 0.1 to 0.3 inches long and 0.1 inches wide with narrow leaves, hornless fruit capsules, and blue flowers from mid-February to March.

Habitat Description:

GABBRO SEAMS ON NORTH-FACING RIDGES ON THE EASTERN SIDES OF MOUNTAINS. 620-825M. CHAPARRAL. ENDEMIC TO RIVERSIDE COUNTY.

Hazard Class:

PD

Species Descriptions

VERNAL POOL FAIRY SHRIMP



Photo: Brent Helm, Jones & Stokes

Scientific Name: *BRANCHINECTA LYNCHI*

Federal Status: Threatened

Species Description:

1/2 to 1-1/2 inch crustaceans swimming upside down (ventral side up), adults have stalked compound eyes, two sets of antennae, and 11 pairs of leaf-like swimming legs. Coloration varies widely from orange to red, blue, gray or green due to food source.

Habitat Description:

INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS. ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS.

Hazard Class:

AQ

WESTERN SNOWY PLOVER



Photo: Don Baccus

Scientific Name: *CHARADRIUS ALEXANDRINUS NIVOSUS (NESTING)*

Federal Status: Threatened

Species Description:

A shore bird with compact body, short neck, large eyes, dark legs and beak, dark partial neckband, males with black forehead and breast markings, females with dark brown markings. Calls include a low pitched "krut" and "ku-wheet."

Habitat Description:

REQUIRES SANDY, GRAVELLY OR FRIABLE SOIL SUBSTRATE FOR NESTING. SANDY BEACHES ON MARINE AND ESTUARINE SHORES, ALSO SALT POND LEVEES AND THE SHORES OF LARGE ALKALI LAKES.

Hazard Class:

AV

Species Descriptions

YUMA CLAPPER RAIL



Photo: Phil Smith, CDFG

Scientific Name: *RALLUS LONGIROSTRIS YUMANENSIS*

Federal Status: Endangered

Species Description:

A chicken-shaped marsh bird with long downcurved beak, slate brown above, with light cinnamon underparts and barred flanks up to 16 inches long, feeds on crayfish, small fish and insects.

Habitat Description:

PREFERS STANDS OF CATTAILS AND TULESS DISSECTED BY NARROW CHANNELS OF FLOWING WATER; PRINCIPLE FOOD IS CRAYFISH. NESTS IN FRESH-WATER MARSHES ALONG THE COLORADO RIVER AND ALONG THE SOUTH AND EAST ENDS OF THE SALTON SEA.

Hazard Class:

AQ, AV

Section List - Riverside County

Sections	Species
01S16E: S23-26,34-36	Desert Tortoise
01S17E: S19-22,27-34	Desert Tortoise
01S22E: S19-29,32-36	Desert Tortoise
01S23E: S19-35	Desert Tortoise
01S24E: S19	Desert Tortoise
02S02W: S20-22,27-29,32-33	Least Bell's Vireo
02S03W: S16,19-22,27-30,34	Stephens' Kangaroo Rat
02S03W: S6	Marsh Sandwort
02S03W: S7	Marsh Sandwort, Stephens' Kangaroo Rat
02S04W: S1-9	Marsh Sandwort
02S04W: S10-12	Marsh Sandwort, Stephens' Kangaroo Rat
02S04W: S13-19	Marsh Sandwort
02S04W: S20-23	Marsh Sandwort, Stephens' Kangaroo Rat
02S04W: S26-29,32-34	Stephens' Kangaroo Rat
02S05W: S1-3,10	Marsh Sandwort
02S05W: S11	Marsh Sandwort, Santa Ana River Woollystar
02S05W: S12-13	Marsh Sandwort
02S05W: S14	Marsh Sandwort, Santa Ana River Woollystar, Santa Ana Sucker
02S05W: S15	Santa Ana River Woollystar, Santa Ana Sucker
02S05W: S20,22-23	Santa Ana Sucker
02S05W: S24	Marsh Sandwort
02S05W: S26-30	Santa Ana Sucker
02S05W: S36	Stephens' Kangaroo Rat
02S06W: S20-21	Least Bell's Vireo
02S06W: S25-26	Santa Ana Sucker
02S06W: S27	Least Bell's Vireo, Santa Ana Sucker
02S06W: S28-30	Least Bell's Vireo
02S06W: S31	Least Bell's Vireo, Santa Ana Sucker
02S06W: S32-33	Least Bell's Vireo
02S07W: S25,36	Least Bell's Vireo
02S11E: S1-4,12	Desert Tortoise
02S12E: S1-12,16	Desert Tortoise
02S13E: S4-7	Desert Tortoise
02S16E: S1-3,9-16,21-28,32-36	Desert Tortoise
02S17E: S3-29,33-36	Desert Tortoise
02S18E: S18-20,28-33	Desert Tortoise
02S22E: S1-5,10-12	Desert Tortoise
02S23E: S3-10,17-18	Desert Tortoise

Section List - Riverside County

Sections	Species
02S23E: S36	Yuma Clapper Rail
02S24E: S10,20-21,29-31	Yuma Clapper Rail
02S24E: S3	Yuma Clapper Rail
02S24E: S4-5,8	Razorback Sucker
02S24E: S9	Razorback Sucker, Yuma Clapper Rail
03S01E: S7,18-19,29-32	Stephens' Kangaroo Rat
03S01W: S1,4-5,11-14,22-29,32-36	Stephens' Kangaroo Rat
03S02W: S2,7-8,10-11,14-19	Stephens' Kangaroo Rat
03S02W: S21	San Jacinto Valley Crownscale, Stephens' Kangaroo Rat
03S02W: S22-23,26	Stephens' Kangaroo Rat
03S02W: S28	San Jacinto Valley Crownscale
03S02W: S29	San Jacinto Valley Crownscale, Stephens' Kangaroo Rat
03S02W: S30	Stephens' Kangaroo Rat
03S02W: S31	San Jacinto Valley Crownscale, Stephens' Kangaroo Rat
03S02W: S32	San Jacinto Valley Crownscale, Spreading Navarretia, Stephens' Kangaroo Rat
03S02W: S33	San Jacinto Valley Crownscale, Stephens' Kangaroo Rat
03S03E: S20	Least Bell's Vireo
03S03E: S23-27	Peninsular Bighorn Sheep
03S03E: S29	Least Bell's Vireo
03S03E: S35-36	Peninsular Bighorn Sheep
03S03W: S2-3,10-11,21-36	Stephens' Kangaroo Rat
03S04E: S29-33	Peninsular Bighorn Sheep
03S04W: S3-10,15-18,20-22,27-28,33	Stephens' Kangaroo Rat
03S05W: S1-2,11-14,20-24,26-31,33-36	Stephens' Kangaroo Rat
03S06W: S19,25-27,33-36	Stephens' Kangaroo Rat
03S06W: S5	Least Bell's Vireo
03S06W: S6	Least Bell's Vireo, Santa Ana Sucker
03S07W: S1,7-9,15-23,29-30	Least Bell's Vireo
03S11E: S24-27,33-36	Desert Tortoise
03S12E: S19-36	Desert Tortoise
03S13E: S19-20,28-33	Desert Tortoise
03S15E: S23-26,35-36	Desert Tortoise
03S16E: S1-5,8-17,19-24,26-31	Desert Tortoise
03S17E: S1-3,12	Desert Tortoise
03S18E: S4-8	Desert Tortoise
03S23E: S11,23-25,35-36	Yuma Clapper Rail

Section List - Riverside County

Sections	Species
04S01W: S1-5,8-11,15	Stephens' Kangaroo Rat
04S02W: S5-6	San Jacinto Valley Crownscale, Spreading Navarretia, Stephens' Kangaroo Rat, Thread-leaved Brodiaea
04S02W: S7	San Jacinto Valley Crownscale, Spreading Navarretia, Thread-leaved Brodiaea
04S03E: S1-2,12	Peninsular Bighorn Sheep
04S03W: S1,11	Stephens' Kangaroo Rat
04S03W: S12-13	San Jacinto Valley Crownscale, Spreading Navarretia, Stephens' Kangaroo Rat
04S03W: S14	San Jacinto Valley Crownscale, Stephens' Kangaroo Rat
04S03W: S15-16,21-22	Stephens' Kangaroo Rat
04S03W: S23-24	San Jacinto Valley Crownscale, Spreading Navarretia, Stephens' Kangaroo Rat
04S03W: S26-27	Spreading Navarretia
04S03W: S29-32	Stephens' Kangaroo Rat
04S03W: S34	San Jacinto Valley Crownscale
04S04E: S33-35	California Red-legged Frog
04S04E: S4	Peninsular Bighorn Sheep
04S04E: S5-8	Least Bell's Vireo, Peninsular Bighorn Sheep
04S04E: S9-10,15-18,20-22,28	Peninsular Bighorn Sheep
04S04W: S5-8,13-15,21-34,36	Stephens' Kangaroo Rat
04S05W: S1-12,14-21,24-25,27-28,32-33,36	Stephens' Kangaroo Rat
04S06E: S1,12	Desert Pupfish
04S06W: S1-4,9-16,20-29,34	Stephens' Kangaroo Rat
04S11E: S1-4,9-16,22-25	Desert Tortoise
04S12E: S1-30	Desert Tortoise
04S13E: S4-9,17-19	Desert Tortoise
04S14E: S13-14,22-27,34-36	Desert Tortoise
04S15E: S1-2,11-13,17-20,29-32	Desert Tortoise
04S16E: S5-10,14-22	Desert Tortoise
04S21E: S19,25-36	Desert Tortoise
04S22E: S27-35	Desert Tortoise
04S23E: S1-2	Yuma Clapper Rail
05S01E: S10	Slender-horned Spineflower
05S01E: S12-13,24	Least Bell's Vireo
05S01E: S35	Slender-horned Spineflower
05S01W: S18	San Jacinto Valley Crownscale
05S01W: S28-33	Stephens' Kangaroo Rat
05S02E: S7,17-19	Least Bell's Vireo
05S02W: S12	San Jacinto Valley Crownscale
05S02W: S13	San Jacinto Valley Crownscale, Stephens' Kangaroo Rat

Section List - Riverside County

Sections	Species
05S02W: S14,19-20	Stephens' Kangaroo Rat
05S02W: S23	California Orcutt Grass, San Jacinto Valley Crownscale, Spreading Navarretia, Thread-leaved Brodiaea
05S02W: S24	San Jacinto Valley Crownscale, Spreading Navarretia, Thread-leaved Brodiaea
05S02W: S29-33	Stephens' Kangaroo Rat
05S02W: S6	Stephens' Kangaroo Rat
05S03W: S17-18	Stephens' Kangaroo Rat, Thread-leaved Brodiaea
05S03W: S19-20,25-27,34-36	Stephens' Kangaroo Rat
05S03W: S3	San Jacinto Valley Crownscale
05S03W: S4	San Jacinto Valley Crownscale, Thread-leaved Brodiaea
05S03W: S5	San Jacinto Valley Crownscale, Spreading Navarretia, Stephens' Kangaroo Rat, Thread-leaved Brodiaea
05S03W: S6-7	Stephens' Kangaroo Rat, Thread-leaved Brodiaea
05S03W: S8	Thread-leaved Brodiaea
05S04E: S10-11	California Red-legged Frog, Least Bell's Vireo
05S04E: S14-15	Least Bell's Vireo
05S04E: S2-3	California Red-legged Frog, Least Bell's Vireo
05S04E: S4,9	California Red-legged Frog
05S04W: S1,3-12	Stephens' Kangaroo Rat
05S04W: S13-14	Stephens' Kangaroo Rat, Thread-leaved Brodiaea
05S04W: S15-25,27-29,32-34,36	Stephens' Kangaroo Rat
05S05E: S14-16,21-23,26-29,32-36	Peninsular Bighorn Sheep
05S05W: S1,3-5	Stephens' Kangaroo Rat
05S05W: S25	San Jacinto Valley Crownscale, Stephens' Kangaroo Rat
05S05W: S26-28	Stephens' Kangaroo Rat
05S05W: S7	Slender-horned Spineflower, Stephens' Kangaroo Rat
05S05W: S8-11,21-22	Stephens' Kangaroo Rat
05S06E: S20-21,28-30,32-33	Desert Pupfish
05S06W: S1-2,12	Stephens' Kangaroo Rat
05S09E: S16-22,25-30,32-36	Desert Tortoise
05S10E: S31	Desert Tortoise
05S11E: S14	Least Bell's Vireo
05S12E: S36	Desert Tortoise
05S13E: S25-36	Desert Tortoise
05S14E: S1-3,11-12,19-20,27-35	Desert Tortoise
05S15E: S5-7,35-36	Desert Tortoise
05S21E: S1-5,9-16,22-26,36	Desert Tortoise
05S22E: S1-36	Desert Tortoise

Section List - Riverside County

Sections	Species
06S01E: S1-2,12	Slender-horned Spineflower
06S01W: S5-6,16-19,25-26,29-33	Stephens' Kangaroo Rat
06S02W: S1-6,8-15,22-27,29-32,34-36	Stephens' Kangaroo Rat
06S03W: S1-2,6-7	Stephens' Kangaroo Rat
06S03W: S31	Riverside Fairy Shrimp
06S03W: S35	Stephens' Kangaroo Rat
06S04W: S17-19	Western Snowy Plover
06S04W: S2-4	Stephens' Kangaroo Rat
06S04W: S6-7	Western Snowy Plover
06S04W: S9-12,15	Stephens' Kangaroo Rat
06S05E: S1-5,8-15,23-26,35-36	Peninsular Bighorn Sheep
06S05W: S1-2,11-14	Western Snowy Plover
06S06E: S7,18-20,27-36	Peninsular Bighorn Sheep
06S06W: S36	Arroyo Toad
06S09E: S1-4,12	Desert Tortoise
06S10E: S1-16	Desert Tortoise
06S11E: S1-18,22-25	Desert Tortoise
06S12E: S1-2,5-36	Desert Tortoise
06S13E: S1-36	Desert Tortoise
06S14E: S1-36	Desert Tortoise
06S15E: S1-11,16-20,29-31	Desert Tortoise
06S17E: S27-28,32-36	Desert Tortoise
06S18E: S31-33	Desert Tortoise
06S22E: S2-6	Desert Tortoise
06S23E: S23-26	Yuma Clapper Rail
06S23E: S36	Razorback Sucker
07S01W: S4-8,18	Stephens' Kangaroo Rat
07S02W: S1-3,11-12	Stephens' Kangaroo Rat
07S02W: S16	Riverside Fairy Shrimp, Stephens' Kangaroo Rat, Vernal Pool Fairy Shrimp
07S02W: S17	California Orcutt Grass, Riverside Fairy Shrimp, Stephens' Kangaroo Rat, Vernal Pool Fairy Shrimp
07S02W: S19	Stephens' Kangaroo Rat
07S02W: S20	Riverside Fairy Shrimp, Stephens' Kangaroo Rat, Vernal Pool Fairy Shrimp
07S02W: S21-22,28-33,35	Stephens' Kangaroo Rat
07S03W: S2-3,10-11,22-23	Stephens' Kangaroo Rat
07S03W: S30-31	California Orcutt Grass, San Diego Button-celery, Stephens' Kangaroo Rat
07S03W: S36	Stephens' Kangaroo Rat
07S04W: S23	California Red-legged Frog

Section List - Riverside County

Sections	Species
07S04W: S25	California Orcutt Grass, San Diego Button-celery, Thread-leaved Brodiaea
07S04W: S26-27	California Red-legged Frog, Thread-leaved Brodiaea
07S04W: S31	Thread-leaved Brodiaea
07S04W: S33	California Orcutt Grass, San Diego Button-celery, Thread-leaved Brodiaea
07S04W: S34	California Orcutt Grass, California Red-legged Frog, San Diego Button-celery, Thread-leaved Brodiaea
07S04W: S35	California Red-legged Frog, Thread-leaved Brodiaea
07S05E: S1-2,12	Peninsular Bighorn Sheep
07S06E: S1-7,9-16,22-27,34-36	Peninsular Bighorn Sheep
07S06W: S1	Arroyo Toad
07S07E: S6-8,17-20,28-33	Peninsular Bighorn Sheep
07S09E: S25-28,33-36	Desert Pupfish
07S10E: S28-29,31-33,35	Desert Pupfish
07S12E: S1-4,10-15,23-24	Desert Tortoise
07S13E: S1-24	Desert Tortoise
07S14E: S1-30,32-36	Desert Tortoise
07S15E: S6-7,17-23,25-36	Desert Tortoise
07S16E: S25-26,30-36	Desert Tortoise
07S17E: S1-36	Desert Tortoise
07S18E: S1-36	Desert Tortoise
07S19E: S4-11,13-36	Desert Tortoise
07S20E: S18-22,25-36	Desert Tortoise
07S21E: S31	Desert Tortoise
07S22E: S34	Razorback Sucker
07S23E: S1	Razorback Sucker
07S23E: S11,23-24	Razorback Sucker, Yuma Clapper Rail
07S23E: S2	Yuma Clapper Rail
07S23E: S27-28,33-34	Yuma Clapper Rail
08S01E: S8-9,16-17	Stephens' Kangaroo Rat
08S01W: S1-2	Stephens' Kangaroo Rat
08S01W: S10-14	Stephens' Kangaroo Rat
08S01W: S15	Slender-horned Spineflower, Stephens' Kangaroo Rat
08S01W: S16	Slender-horned Spineflower, Vail Lake Ceanothus
08S01W: S20-22	Slender-horned Spineflower
08S01W: S27	Slender-horned Spineflower, Stephens' Kangaroo Rat
08S01W: S28-29,32	Vail Lake Ceanothus
08S01W: S33-35	Stephens' Kangaroo Rat
08S01W: S8-9	Vail Lake Ceanothus

Section List - Riverside County

Sections	Species
08S02W: S2,7-8,15-18,21	Stephens' Kangaroo Rat
08S04E: S35-36	Peninsular Bighorn Sheep
08S04W: S10	California Orcutt Grass, San Diego Button-celery, Thread-leaved Brodiaea
08S04W: S3-4	California Orcutt Grass, San Diego Button-celery, Thread-leaved Brodiaea
08S04W: S7	Thread-leaved Brodiaea
08S04W: S9	California Orcutt Grass, Thread-leaved Brodiaea
08S05E: S30	Least Bell's Vireo
08S05E: S31-33	Least Bell's Vireo, Peninsular Bighorn Sheep
08S05E: S34	Peninsular Bighorn Sheep
08S06E: S1-3,10-15,22-26	Peninsular Bighorn Sheep
08S07E: S4-9,13-36	Peninsular Bighorn Sheep
08S08E: S18-19,29-33	Peninsular Bighorn Sheep
08S09E: S5,7-8,17-18,20-21,27-28,33-34	Desert Pupfish
08S10E: S2	Desert Pupfish
08S11E: S10	Desert Pupfish, Yuma Clapper Rail
08S11E: S14-15,22-23,26	Desert Pupfish
08S11E: S27-28	Desert Pupfish, Yuma Clapper Rail
08S11E: S3-4,9	Yuma Clapper Rail
08S12E: S19,30	Desert Pupfish
08S14E: S1-3	Desert Tortoise
08S15E: S1-4,10-14,24	Desert Tortoise
08S16E: S1-29,34-36	Desert Tortoise
08S17E: S1-36	Desert Tortoise
08S18E: S1-36	Desert Tortoise
08S19E: S1-36	Desert Tortoise
08S20E: S1-24,26-35	Desert Tortoise
08S21E: S36	Razorback Sucker
08S21E: S5-8,18	Desert Tortoise
08S22E: S3-4,16-17,20-21,29-32	Razorback Sucker
08S23E: S4	Yuma Clapper Rail
09S07E: S1	Peninsular Bighorn Sheep
09S08E: S5-6	Peninsular Bighorn Sheep